

REMARKS

Claims 1, 2, 7-10 and 42-46 are pending in the application.

Claims 43-46 are withdrawn from consideration.

Claims 1, 2, 7-10 and 42 are rejected.

Claims 1-2, 7-10 and 42 are rejected under 35 U.S.C. § 103(a).

Claim 1 is amended.

Claims 47-49 are added.

No new matter is added.

Claims 1-2, 7-10, 42, and 47-49 remain in the case for consideration.

Applicant requests reconsideration and allowance of the claims in light of the above amendments and following remarks.

Examiner Interview

An Examiner Interview was conducted on February 5, 2007 between Gregg Palmer, as a representative of the Applicants, and Examiner Anita Alanko. During the interview, Mr. Palmer inquired as to the reasoning behind restricting claims 43-46. Examiner Alanko indicated that she would reconsider the restriction requirement. Mr. Palmer and Examiner Alanko also discussed each limitation of claim 1 with respect to the cited prior art (Huang). Mr. Palmer pointed out that it was likely that the dielectric layer (16) shown in FIG. 4 of Huang was partially etched along with the electrode (18) during the "one-step" etching process taught in Huang, which is in contrast to the "prior to etching the dielectric layer, reducing the protruding portion of the electrode" limitation of claim 1. Mr. Palmer also pointed out that the Huang did not teach "recessing a top surface of the electrode at least 500 angstroms below the top surface of the dielectric layer." Examiner Alanko indicated that the Applicants could make these arguments, but they may not be persuasive because Huang did not specifically teach etching the insulating layer (16) and did not limit the reduction of the electrode top surface below the dielectric layer to a certain amount. Mr. Palmer next inquired if amending claim 1 to further specify providing a plurality of separated electrodes, or to further specify how the electrode protruded above the dielectric layer would overcome the prior art. Examiner Alanko indicated that amendments along these lines would likely overcome Huang, but that she would have to review Huang in more detail.

Election/Restriction

Claims 43-46 have been indicated by the Examiner has directed to an invention similar to an invention of Group II that was restricted by Examiner Pham on 9/22/05. The present Examiner asserts that claims 43-46 are directed to this restricted group because “the structure of a cylindrical electrode protruding from a dielectric layer is a capacitor lower electrode.” However, the Applicants traverse this assertion. In the earlier Restriction Requirement, Examiner Pham identified inventive Group II as distinct from Group I because: “the combination Group II does not require providing a wafer having a dielectric layer and an electrode partially protruding from a top surface of the dielectric [i.e.,] the subcombination has separate utility such as forming an electrode of a device that is not a capacitor.” Claims 43-46, however, merely further limit the limitations of claim 1, which includes “providing a wafer having a dielectric layer and an electrode partially protruding from a top surface of the dielectric layer,” to including a “substantially cylindrical electrode.” Further, claims 43-46 never claim “a capacitor lower electrode” as asserted by the Examiner. Merely specifying that the electrode is substantially cylindrical is not inherently asserting that the electrode is a capacitor lower electrode. Rather, as with claim 1, the electrode claimed in claims 43-46 may include a variety of electrode types. Thus, because claims 43-46 do not include the characteristics of the restricted Group II inventions and are similar to claim 1, the Applicants submit that this restriction requirement is improper and request that the Examiner reconsider this restriction requirement and examine claims 43-46.

In the Claims

Claim Rejections 35 U.S.C. §103

Claims 1-2, 7-10 and 42 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,668,038 to Huang, et al. (“Huang”).

Claim 1 has been amended to specify that the wafer has a plurality of electrodes separated from each other, wherein at least one of the electrodes partially protrudes from the top surface of the dielectric layer.

In contrast, Huang teaches a singular polysilicon layer that is simply formed over a dielectric layer. This polysilicon layer is eventually processed into an electrode; however, even when processed, Huang teaches only a singular polysilicon electrode as opposed to the plurality of electrodes claimed in claim 1.

Thus, because Huang does not teach all of the limitations of claim 1, Huang cannot render claim 1 unpatentable. As such, the Applicants submit that claim 1 is in allowable form, and request that the rejection under § 103 be removed.

Claims 2, 7-10, and 42 depend from claim 1. Based at least in part on this dependency, the Applicants submit that claims 2, 7-10, and 42 are likewise in proper form for allowance.

New Claims

Claims 47-49 have been added. Claim 47 is similar to claim 1 with the addition of limitations specifying method steps that provide the wafer having the electrode protruding from the top surface of the dielectric layer. Support for this claim can be found from FIGs. 1C and 1D and the corresponding sections in the specification. Claim 48 is also similar to claim 1 with additional limitations specifying the protruding nature of the electrode. Support for this claim can be found from FIGs. 1D and 1E and the corresponding sections in the specification. Claim 49 depends from claim 1 and has limitations similar to those of claim 47.

Conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-2, 7-10, 42, and 47 of the application as amended is requested. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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